OUR ASTRONOMICAL COLUMN.

A COMET ON THE ECLIPSE PHOTOGRAPHS OF 1893.—A year ago Prof. Schaeberle announced that the eclipse photographs taken by him at Chile in April 1893, showed a comet-like structure in the corona near the sun's south pole. The photographs taken by the British observers in Brazil and Africa were examined in order to see if they showed the cometary object, but nothing could then be made out. It is well known, however, that faint objects can be easily found when the observer knows what can be seen, and where to look for it. Prof. Schaeberle and Prof. Holden were confident that a comet was photographed upon the corona of the 1893 eclipse, and, with the idea of obtaining confirmation of the discovery, the latter sent Mr. W. H. Wesley copies from negatives obtained at Chile and Brazil, having marks upon them showing the exact position of the object in question. These guides have fulfilled their purpose, for Mr. Wesley says, in the *Observatory*, that they clearly point out a cometary structure in the corona. The object is extremely faint, and, unless particular attention is drawn to it, appears like a forked coronal ray. Evidently the only way to prove that the object was really a comet was to measure its angular distance from the moon's limb on the photographs taken at the different eclipse stations. Mr. Wesley has done this, and he finds that the distances are: Chile, 29′; Brazil, 36′; Africa, ± 47′. Therefore, it is concluded "the evidence of motion relatively to the sun, given by the comparison of the plates taken at the three stations, seems to place the nature of Prof. Schaeberle's interesting discovery beyond a doubt."

THE TRANSIT OF MERCURY.—The transit of Mercury across the sun on Saturday, November 10, is a matter of more interest to American than to European astronomers. The planet will enter upon the sun's disc at 98° from the North point, counting towards the East, and will leave at a point 50° from the North, counting towards the West. It will reach the sun's limb at five minutes to four in the afternoon; but as the sun sets at Greenwich about twenty minutes later, there will not be much opportunity for observation in London. In America, however, if the weather is favourable, the planet will be observed during the whole of the five hours it will take in transiting. The following are the Greenwich Mean Times of the phases of the transit:—

			h.	m.	s.
Ingress, exterior contact	Nov. 10		3	55	31·2
Ingress, interior contact	,,		3	57	15·4
Least distances of centres (4′ 26″·8) ...	,,		6	33	48·5
Egress, interior contact	,,		9	10	26·4
Egress, exterior contact	,,		9	12	10·4

MIRA CETI.—Mr. Fowler writes from South Kensington to draw attention to the fact that this remarkable variable will be suitably placed for observations during its progress to the next maximum. According to the *Companion to the Observatory*, the date of minimum was September 24, and the maximum may be expected about February next. It will be of great interest to obtain a spectroscopic record during the rise to maximum, with special reference to the time of appearance of the bright lines of hydrogen, which have been seen near the time of maximum.

Mr. Fowler observed the spectrum on October 24, with the three-foot reflector, and it did not then differ from the spectrum of such a star as α Herculis, in which the hydrogen lines are not known to appear bright. The bright part of the spectrum which is coincident with the carbon band near λ 5165 was relatively less bright, however, than when it was observed near the last maximum.

RETURN OF ENCKE'S COMET.—It is reported that Encke's comet was observed at Rome by Prof. Cerulli, near the predicted place, on November 1. According to a search ephemeris given in the *Astronomische Nachrichten*, No. 3260, for Berlin midnight, the comet's place for November 8 is R.A. 22h. 59m. 30s. Decl. + 12° 32′ 18″. The comet passes perihelion next February.

TWO VARIABLE STARS.—In a *Wolsingham Observatory Circular*, No. 40, dated October 30, the Rev. T. E. Espin says: "The variability of two red stars, R.A. oh. 49·0m. Decl. + 58° 1′ and R.A. 1h. 49·8m. Decl. + 58° 46′ has been definitely ascertained."

OBSERVATIONS OF MARS.

A LARGE proportion of the October number of *Astronomy and Astro-Physics* is devoted to articles on Mars, illustrated by several coloured plates. Schiaparelli's map of Mars forms the frontispiece; Prof. Schaeberle contributes nine drawings of the planet; and there are three plates containing drawings made at the Lowell Observatory, Flagstaff, Arizona, by Mr. Percival Lowell, Prof. W. H. Pickering, and Mr. A. E. Douglass. The following statement, from an article by Prof. Pickering, is a chronological summary of the more important facts and discoveries relating to Mars. It is chiefly compiled from Flammarion's monograph on Mars, and should be of special interest at the present time:—

272 B.C. The first known observation of Mars is recorded in Ptolemy's Almagest.

1610. The phases of Mars were discovered by Galileo.

1659. The first sketch showing surface detail was made by Huyghens. He also suggested a rotation in 24 hours.

1666. Cassini determined the rotation of Mars to take place in 24 hours 40 minutes. He also observed the polar caps, and "he distinguished on the disc of Mars, near the terminator, a white spot advancing into the dark portion, and representing without doubt, like those of the moon, a roughness or irregularity of the surface." This latter statement is curious, but the effect was undoubtedly due to irradiation, since his telescope was entirely inadequate to enable him to observe such a delicate phenomenon.

1777. With the exception of Huyghens, Hooke, and possibly Maraldi, no one succeeded in making recognisable sketches of the surface detail upon Mars for over a century, until Sir William Herschel took the matter up in this year.

1783. Sir William Herschel detected the variation of the size of the polar snow caps with the seasons, measured the polar compression, and determined the inclination of the axis of the planet to its orbit.

1785–1802. Schrœter made an extended study of the planet. His drawings are upon the whole rather better than those of Herschel. He discovered among other things the very dark spots to which Prof. Pickering has referred in his publications as the Northern and Equatorial Seas. He, however, supposed them to be clouds.

1840. Beer and Maedler published the first map of the planet, assigning latitudes and longitudes to the various markings. On this map are indicated the first canals, and the first of the small lakes, so many of which have been discovered during the last few years. The canals are Nectar and Agathodaemon and portions of Hades and Tartarus. The lake is Lacus Phoenicis. Their map is the first satisfactory representation of the entire surface of the planet. The only region which previous observers had clearly distinguished was that in the vicinity of the Syrtis Major.

1858. Secchi made a careful study of the colours exhibited by the planet.

1862. Lockyer made the first series of really good sketches of the planet, showing all the characteristic forms with which we are now so familiar. His drawings, and also those of some of the other observers, give the first indications of the appearance of the central branch in the Y, so called by Secchi.

1864. Dawes detected eight or ten of the canals.

1867. Huggins detected lines due to the presence of water vapour in the spectrum of Mars.

1867. Proctor determined the period of rotation of Mars within 0·1 second.

1877. Hall discovered the two satellites of Mars.

1877. Green made a very excellent series of drawings of the planet, superior to anything which had preceded them.

1877. Schiaparelli made the first extensive triangulation of the surface of the planet, and added very largely to the number of known canals.

1879. Schiaparelli detected the gemination of Nilus, the first known double canal.

1882. Schiaparelli discovered numerous double canals, and announced that the appearance formed one of the characteristic phenomena of the planet.

Mr. Percival Lowell reports the observations of Mars made at the Lowell Observatory, in continuation of those recorded in our issue of September 13. The subjoined abstract of the paper raises some interesting points. The suitability of the site of the observatory may be judged from the fact that the planet has